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What Works in Treating Juveniles with Substance Abuse Problems, Mental Health Issues, or Co-Occurring Disorders

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What Works in Treating Juveniles With Substance Abuse Problems, Mental Health Issues or Co-Occurring Disorders?

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Services for juveniles who exhibit substance abuse disorders, mental health disorders, or co-occurring disorders are rapidly improving across the country. This article reviews what is known about innovative, effective prevention and treatment strategies for juveniles with substance abuse issues. It also reviews effective treatment options for juveniles exhibiting signs of mental illness or co-occurring disorders. Juvenile drug courts and mental health courts are examples of such innovative programming. Our extensive review of literature also reveals other treatment models and programming that are effective for substance abuse treatment, including diversion to community treatment and Functional Family Therapy. And in addition to mental health courts, we find that Multi-systemic Therapy, system of care, and special needs diversionary programming are promising approaches to treating juveniles with mental illness. Finally, we conclude with a call for further research and evaluation to determine the effectiveness of treatment for juveniles with co-occurring disorders.

Keywords: juvenile justice, substance abuse, co-occurring disorders, juvenile rehabilitation

Individuals with substance abuse issues pose significant problems for the criminal justice system insofar as their drug use is often related to addiction, and drug addiction is highly correlated with criminal recidivism. Adolescents' entrance to the juvenile justice system may also be a consequence of behaviors resulting from an undiagnosed, untreated mental health issue other than substance abuse (Skowyra & Cocozza, 2007). Juveniles with substance abuse and/or mental health issues create even more unique challenges for both policymakers (and taxpayers) because their treatment and relapse intervention often extend across the life course.

This article reviews models and programs designed to help prevent and treat substance use by juveniles. It also discusses mental health court programming for juveniles as well as the treatment for the co-occurring disorders of substance abuse and mental illnesses. When appropriate, best practices are identified in each area based on a synthesis of the literature reviewed in each section.

Methodology

In an effort to assimilate the available information on programming for juvenile substance abuse, mental health, and for co-occurring disorders, we used standard social scientific procedures for developing a comprehensive literature review. Here, we obtained both peer-reviewed articles and government research publications on the above subjects. A number of databases were explored for relevant and current literature, including Academic OneFile, Criminology: SAGE Full-text, ProQuest Criminology, Google Scholar, JSTOR, Boise State University Library TD NET, WorldCat, and PAIS Social Science Abstracts. We also examined the following government websites: National Criminal Justice Research Service (NCJRS), National Institute of Justice (NIJ), and the Bureau of Justice Statistics (BJS). Searches were limited to the previous 10 years. The following search strings, and obvious variations, were used: "juvenile mental illness", "juvenile substance abuse", "juvenile co-occurring disorders", and "treatment for juveniles". When an article/publication that appeared to be relevant was discovered, the abstract was read. If the article seemed satisfactory, it was given a cursory read. Finally, if it still appeared pertinent, it was read in detail and summarized. Its reference section was then consulted for other pertinent research.

While there exists a rather well-regarded scale to determine the effectiveness of programs (the Maryland Scale of Scientific Methods) (Sherman, Gottfredson, MacKenzie, Eck, Reuter & Bushway, 1997), we were not as systematic as Sherman and his colleagues in our assessments. Rather, we evaluated each of the research studies discovered and based our "best practice" acknowledgements on subjective assessments of quality and quantity of the studies dealing with programming in juvenile substance abuse, juvenile mental health, and co-occurring disorders. In essence, we used the confluence of independent streams of evidence to judge specific programming as a "best practice."

However, we would be remiss in not pointing out the obvious. As with any research, there are certain limitations within which all findings must be taken into consideration. This study

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is no different. First, our search for peer reviewed articles and government documents did not include every database in every discipline that may have covered programming for juveniles with substance abuse issues, mental health concerns, or co-occurring disorders. Due to time constraints, we confined our searches to *criminal justice* databases. Second, the keywords used to search these databases may not have been inclusive of every possible term used to describe the subjects in which we were interested. And third, our collection of articles and publications did not include unpublished academic research, such as dissertations or those posted on individual researchers' websites. Despite these limitations, we feel confident that the assimilation of research presented below, as well as our determination of best practices, is representative of the available evidence-based studies available in the areas of juvenile substance abuse, mental health, and co-occurring disorders' programming.

Juvenile Offenders with Substance Abuse Issues

Nationwide in 2006, Snyder (2008) estimated that some 196,700 juveniles were arrested for drug abuse violations and another 20,100 were arrested for driving under the influence. Between 1995 and 2004, there was a 4% decrease in the number of juveniles arrested for drug abuse violations. Across that same time period, the number of male juveniles arrested for drug abuse violations decreased by 8%, whereas the number of female juveniles arrested for the same charges increased by 29% (Snyder, 2008). Nationally, 67% of juveniles held in out-of-home placement were in facilities that screen all youth for substance abuse issues. In addition, to evident substance abuse issues among juveniles, singular or co-occurring mental health issues are also prevalent among adolescents in the juvenile justice system. Shufelt & Cocozza (2006) found that 70% of those in the juvenile justice system exhibited at least one criterion of a diagnosable mental health disorders (including substance abuse). After removing those juveniles who suffered from substance abuse issues, a significant majority (62%) still experienced mental health disorders such as conduct, anxiety, and depression. Further reducing the sample size, the removal of conduct disorders (which can be controversial) resulted in 46% of juveniles exhibiting signs of significant mental health disorders (Shufelt & Cocozza, 2006).

Diversion to Community Treatment Based on Principles of Effective Intervention

It has been estimated that society spends upwards of $43,200 per year for every untreated addict (OJP, 2000). Community treatment can occur in both inpatient (residential) and outpatient (community) settings. OJP (2000) also concluded that treatment helps to improve the overall health of drug abusers, reduces health care costs associated with substance abuse, and was a cost effective method for reducing addiction.

A distinction is drawn in this work between community treatment founded upon principles of effective intervention and community treatment that is not delivered around those principles (see OJP, 2000). Our search for research concerning community treatment based upon principles of effective intervention uncovered several studies focusing exclusively on juvenile offenders. Luchansky, He, Longhi, Krupski, and Stark (2006) analyzed the outcomes for 5,903 who began and ended a treatment episode in Washington State during 1997 and 1998. Juveniles who completed treatment (whether in- or out-patient) had fewer readmissions to treatment, and fewer post-treatment adjudications for any offense. Longer treatment stays (more than 90 days) had fewer readmissions and felony adjudications. However, older juveniles (over 15 years of age) were less likely to be readmitted to treatment and less likely to be charged with a subsequent offense. Moreover, individuals whose drug of choice was marijuana were less likely to have readmissions compared to individuals who used more addictive substances such as heroin and cocaine (Luchansky et al., 2006).

Lipsey and Cullen (2007) conducted a review of meta-analyses regarding the effectiveness of general rehabilitation efforts. Their findings suggest that reductions in recidivism varied by the type of intervention employed as well as the intervention setting. For instance, reductions in recidivism varied from a low of 14% for residential settings to 26% for community-based settings and to 38% for a combined residential/community analysis (Lipsey & Cullen, 2007). The Lipsey and Wilson (1998) study was the only meta-analysis that provided separate results for community-based and residential treatment. These results show a 12% greater reduction in recidivism for juveniles in a community-based setting as opposed to a residential setting (Lipsey & Cullen, 2007). Lipsey and Cullen (2007) concluded that rehabilitation treatment does work based on the mean effects showing a reduction in recidivism across every meta-analysis with greater reductions appearing with community-based treatment.

Juvenile Drug Courts

Approximately 1,300 drug courts currently exist in the United States with another 500 in the planning stages (BJA Drug Clearinghouse Project, 2005). Wilson, Mitchell, and MacKenzie (2006) list the primary features of a drug court as:

> The integration of alcohol and other drug treatment and justice system case processing; a non-adversarial courtroom approach; random urine drug screens or other monitoring of abstinence; judicial monitoring of a participants progress via status hearings; and a system of sanctions and rewards for program infractions and achievements. (p. 460-461)

While evaluations of drug courts in general, and juvenile drug courts in particular, have been slow to emerge, they have become more common since 1997. Unfortunately, most of these studies are process evaluations (which tend to focus on descriptive aspects of program integrity); only a handful of existing studies evaluate actual participant outcomes. Henggeler et al. (2006) reported on the outcomes of a juvenile drug court study. In this study, 161 juvenile offenders were randomly assigned to four treatment options: family court with traditional court services, drug court with traditional court services, drug court with multisystemic therapy (MST), or drug court with enhanced case management services for substance abuse, delinquency, and days in out-of-home placement during a 1-year period. Results suggest that drug court was more effective than

family court services in reducing both substance use and delinquency, but reductions in delinquency did not mean fewer arrests or subsequent out-of-home placements. Henggeler et al. (2006) speculate that this might have been due to the increased surveillance (technical violations) in drug court as opposed to more traditional family court services. Drug courts using evidence-based treatments (such as MST) had even lower rates of substance use (Henggeler et al., 2006).

In another meta-analysis, Wilson et al. (2006) compared outcomes for participants assigned to drug court (both juvenile and adult) and a control group assigned to probation with community treatment. Their findings suggest that drug court participants were less likely to be arrested or adjudicated for any offense, including drug offenses, than were control group subjects. An analysis of the three strongest studies showed mixed results with a non-significant overall reduction in recidivism of 14%. According to these authors, drug courts using a pre- or post-plea model were more effective in reducing recidivism than those using other approaches. In addition, courts using a single treatment provider were more effective at reducing recidivism. This result may have been due to more dedicated providers (sole contracted) using a cognitive behavioral approach than multiple treatment providers (Wilson et al., 2006).

Three studies measured drug use as recidivism and found more drug use (as measured through drug testing) among drug court attendees than the comparison group. However, decay effects appear to be small among drug court participants with one study finding positive effects at 36 months (Wilson et al., 2006). Evidence accumulated across these studies suggest that drug courts are effective in reducing recidivism; however methodological weaknesses in the various research designs of these studies hinder definitive conclusions.

Lipsey and Cullen (2007) reviewed four drug court meta-analyses (Wilson et al., 2006; Lowenkamp et al., 2005; Pearson & Lipton, 1999b; Lipsey & Wilson, 1998) and reported reductions in recidivism ranging from 10% to 24%. Unfortunately, as noted earlier, these analyses included both juvenile and adult drug courts without disaggregating the results by age (juvenile vs. adult), thus it is impossible to determine if that range in recidivism reductions will remain constant for drug courts that cater exclusively to the unique needs of juveniles. The Washington State Institute on Public Policy (WSIPP) (2007) lists juvenile drug courts as an effective evidence-based juvenile offender program. They analyzed the outcomes of 15 studies on juvenile drug courts. Their meta-analysis suggested that juvenile drug courts reduced recidivism for substance abusing offenders by 3.5% across all 15 studies (WSIPP, 2007).

Functional Family Therapy (FFT)

Functional Family Therapy (FFT) is an intervention program that focuses on reducing risk factors and strengthening protective factors for juveniles and their families through the use of an "interventionist" in a home setting. FFT is a five-phase program consisting of engagement, motivation, assessment, behavior change, and generalization. The first phase of *engagement* emphasizes individual and family protective factors that seek to decrease the likelihood of dropping out of the program. The second phase of *motivation* focuses on changing negative emotional patterns and belief systems as well as improving positive emotional and psychological factors that promote long-term change. The third phase of *assessment* explores relationships in the youth's life and how they can impact long-term change. The fourth phase is *behavior change*, which focuses on teaching or improving communication, parenting, problem solving, and other important family management skills. The final phase of *generalization* applies the new emotional patterns, belief systems, behaviors, and skills to all life situations and social interactions (CSPV, 2006).

FFT targets juveniles between the ages of 11 and 17 who exhibit substance abuse, delinquency, behavioral disorders, and co-occurring depression. Probation officers, psychosocial rehabilitation specialists, and mental health professionals from degreed programs have all been trained in the FFT model as interventionists. The average program operates for 90 days. CSPV (2006) reports reductions in recidivism ranging from 25% to 60% across many studies (for general juveniles as opposed to specifically substance abusing juveniles). Hinton, Sims, Adams, and West (2007) also cite FFT as being an effective intervention for drug-abusing youth. Aos, Phipps, Barnoski, and Lieb (2001) identified seven outcome evaluations using the FFT approach. They found that FFT significantly reduced recidivism across several settings with an average reduction of roughly 25%.

WSIPP (2004) conducted an outcome evaluation of FFT programs in Washington State where juveniles admitted to the FFT program were compared with similarly situated juveniles who received traditional juvenile court services. According to this study, the FFT group had a 24.2% recidivism rate compared to a 27% rate for the control group, for an overall reduction in recidivism (re-conviction) of 10.4%. This was not a significant difference. However, WSIPP (2004) also assessed program integrity by measuring how closely interventionists adhered to FFT standards and protocol (referred to by the authors as interventionist "competency"). When the data were re-analyzed according to interventionist competency, the FFT juveniles had a recidivism rate of 17% compared to 27% for the control group; this was a statistically significant difference. Overall, competent interventionists realized a 38% reduction in recidivism in their juvenile clients as opposed to an increase in recidivism of 17% for incompetent interventionists. This too was a statistically significant difference (WSIPP, 2004).

Multisystemic Therapy (MST)

Multisystemic therapy (MST) is an intervention program based on the notion that juvenile anti-social behavior is the result of problems in multiple domains: individual, social, family, and community. MST provides home-based services to juveniles and their families in an effort to increase parental efficacy and build upon the strengths inherent in each juvenile and their respective family. This intervention seeks to improve caregiver discipline practices; enhance family affective relations; decrease youth association with deviant peers; increase youth association with prosocial peers; improve youth school

or vocational performance; engage youth in prosocial recreational outlets; develop an indigenous support network of extended family, neighbors, and friends to help caregivers achieve and maintain such changes (see CSPV, 2006).

Henggeler, Pickrel, & Brondino (1999) conducted a study comparing 118 drug abusing youth randomly assigned to both MST and traditional probation services across three time episodes (pre-treatment, post-treatment, and 6 months post-treatment). Alcohol and drug use significantly decreased between the pre- and post-treatment periods for both groups, but more so for MST youth for both alcohol/marijuana and other types of drug use. However, further analysis of differences in drug use between the two groups yielded no significant differences. Problems existed with treatment integrity among providers in this study, which may have negatively impacted the findings. Moreover, these authors suggest that MST may not be an appropriate intervention for serious substance abusing juveniles (Henggeler et al., 1999). Aos et al. (2001) reviewed three studies of MST programs and found an average reduction in recidivism of 31% across the three studies. Unlike Henggeler et al. (1999), Aos et al. (2001) concluded that MST was indeed effective in reducing recidivism for substance using juveniles, although they note the need for further research with more diverse populations.

Curtis, Ronan, and Borduin (2004) conducted a review of 11 studies evaluating MST. They found that juveniles assigned to MST programming were functioning, on average, better than 70% of juveniles in the comparison groups. However, as with FFT, the authors found a difference in effect sizes depending on therapist competency. That is, graduate student therapists who were closely supervised by MST trainers were more effective in reducing juvenile anti-social behavior than were community-based therapists who were not closely supervised. Here again, it is important to note that therapist competency and/or adherence to MST protocol seems to impact program effectiveness. Littell, Popa, and Forsythe (2005) reviewed eight studies evaluating MST with juvenile offenders, only one of which exclusively involved substance-abusing youth. Their analysis suggested that, while outcomes for MST-involved juveniles were generally favorable, differences in recidivism and other outcome measures between MST effects and more traditional juvenile services were not statistically significant (Littell et al., 2005).

Intensive Case Management Services Involving Families

Dembo et al. (2000) conducted a study of the Family Empowerment Intervention (FEI) program. Their study analyzed outcome measures for 303 juveniles involved in randomly assigned comparisons of FEI and Extended Services Intervention (ESI). Outcome measures were collected at 12 months post-treatment. Family Empowerment Intervention involves home-based services focused on improving family functioning, including hierarchy, setting boundaries, rules, and communication. If needed, field consultants connected juveniles and their families to other community-based services. Juveniles assigned to ESI received monthly contacts via telephone and referral to community-based services; this is comparable to traditional probation services. Dembo et al. (2000) found no significant difference in the number of arrests and arrest charges between FEI and ESI participants. However, there was a significant difference between those who completed FEI and those who did not with a 59% lower re-arrest rate for FEI completers (Dembo et al., 2000).

Lattimer (2001) conducted a review of 35 studies evaluating family-involved treatment programs. This analysis revealed that juveniles in family-involved treatment programs had significantly lower recidivism rates than juveniles in non-family programs with younger juveniles (under age 15), while juveniles who voluntarily entered treatment showed the lowest recidivism rates. However, Lattimer (2001) found that methodologically weaker studies were more likely to show lower recidivism rates than more methodologically rigorous studies. In fact, there was no significant difference between the two approaches (i.e., family-involved vs. non-family) in the more rigorous studies (Lattimer, 2001).

Dembo, Wareham, Poythress, Cook, and Schmeidler (2006) conducted a study evaluating the Arbitration Intervention Services. This study analyzed outcome measures 12 months post-treatment for 164 juveniles randomly assigned to either the Arbitration Intervention or the "treatment as usual" group. Parents of juveniles assigned to the treatment as usual group received contact information on community-based organizations that could provide individual or family counseling services. The juveniles assigned to the Arbitration Intervention group received 16 weeks of case management in their home by case managers who were overseen by a clinical supervisor. Case management focused on an intervention plan based on the strengths and weaknesses of both the juvenile and his/her family. This also included counseling and referrals to other agencies for more specific juvenile or family needs. Results showed no statistically significant difference in recidivism between juveniles assigned to either the Arbitration Intervention or the treatment as usual groups (Dembo et al., 2006).

Due to the mixed findings across the intensive case management programs involving families, we conclude that the effectiveness of these programs at reducing recidivism among substance abusing juvenile offenders is unknown.

Best Practices for Handling Juvenile Offenders with Substance Abuse Issues

A review of the existing research literature suggests at least three best practice approaches for handling juvenile offenders with substance abuse issues. These practices include: (a) diversion to community treatment using the principles of effective intervention; (b) juvenile drug courts, albeit much of the evidence indicating effectiveness has been gleaned from outcome evaluations using adult drug court participants; and (c) Family Functional Therapy (FFT). Two other approaches—Multisystemic Therapy, and Intensive Case Management involving families—while not yet fully vetted in the research literature, are considered "promising" practices. What is evident is that those practices deemed effective or promising overwhelmingly focus on meeting the individualized needs of substance abusing offenders and, often, involve family members and/or significant individuals in the juvenile's life.

Juvenile Offenders with Mental Illness Issues

Mental illness is a serious and widespread problem that affects a significant number of youth in correctional facilities (Cellini, 2000). Jenson and Potter (2003, p. 589) found that 20% and 84% of youth involved in the juvenile justice system have mental health issues. Juvenile offenders with mental health issues do not necessarily belong in correctional institutions. Indeed, their mental health interests might be better served in a setting that is more conducive to treatment.

Wraparound Programs

Wraparound programs seek to promote the integration of comprehensive, community-based services that are offered in the least restrictive environment. Such programs encourage the full participation of the youth's family as part of the treatment plan. There are several principles to wraparound programs which include: team-driven treatment (i.e., health care providers, government agencies, and community services), active family input, individualized strength-based services, encouraging support from peers and extended family, and the use of flexible plans and sufficient funding. Such comprehensive and integrated programming is rarely offered to youth in the juvenile justice system and very little research has been done to evaluate its effectiveness in reducing recidivism (Pullman et al., 2006).

In response to the disproportionate number of youth with mental health problems who are processed in the juvenile justice system, Pullman et al. (2006) conducted a one-shot case study that compared two types of programs for effectiveness: a wraparound program, *Connections*, and traditional mental health service programs. *Connections* is a community-based wraparound program that serves delinquent youth with emotional and behavioral disorders (Pullman et al., 2006). This study compared 106 youth in *Connections* to 98 youth on whom data were gathered from historical records. Findings revealed that the comparison group youth were almost three times more likely to commit another offense than those in the *Connections* group. Youth in the comparison group averaged 104 days until their next offense, whereas youth in *Connections* averaged 366 days until their next offense. In addition, the comparison group youth were three times more likely to commit a felony offense, and, during the post identification time period, the comparison group averaged 7.5 detention episodes per youth, while the *Connections* group had an average of 4.4 detention episodes (Pullman et al., 2006). Pullman et al. (2006) concluded that the *Connections* program is effective for reducing recidivism.

Another wraparound program similar to *Connections* is the *Wraparound Milwaukee* program. *Wraparound Milwaukee* serves approximately 400 adjudicated youth and was started by a Mental Health Services grant. In addition to the wraparound programming discussed above, *Wraparound Milwaukee* includes needs-based services and outcomes-focused plans for youth. For example, this program is noted for its apparent success in treating troubled youth with multiple needs (Kamradt, n.d.). Twenty-five youth, who had no plans to be released from residential care for their problems, were chosen for the program. Since the program's inception, there has been a 60% decrease in residential placements in Milwaukee and an 80% decrease in psychiatric hospitalizations. Additionally, the average treatment cost per child has dropped from $5,000 to $3,000 a month due in large part to coordination of services (Kamradt, n.d.). In a one-shot case study, clinical outcomes of a group of 300 youth enrolled in *Wraparound Milwaukee* were examined. During a 6 month and 1 year follow-up, there was a decrease in recidivism for all offenses measured, which included: sex offenses (10%), assaults (7%), weapons offenses (11%), property offenses (17%), drug offenses (3%), and other offenses (16%) (Kamradt, n.d.).

System of Care

The System of Care philosophy posits that the community is responsible for children's mental health needs and is defined as "a comprehensive spectrum of mental health and other necessary services and supports organized into a coordinated network to meet the diverse and changing needs of children and youth with mental health needs and their families" (MacKinnon-Lewis et al., 2002, p. 360). In addition to being community-based, the System of Care approach is family-based and culturally sensitive to individual and family needs. At the core of System of Care is the notion that youth and their families have needs and issues that cross agency boundaries, and it is unlikely that any one agency can meet the many needs of youth with mental health issues. Therefore, collaboration is the key for practices, programs, and policy. The collaboration of family service providers is important for keeping those closest to the child well informed when decision making and services with various agencies take place. This model has been utilized in the mental health arena and its principles can be effective for dealing with the juvenile justice system as well (MacKinnon-Lewis et al., 2002).

The Comprehensive Community Mental Health Services for Children and Their Families Program (the "Children's Program") utilizes the system of care approach and has been evaluated in several communities (Foster et al., 2004). For example, Foster et al., (2004) analyzed data collected from two communities in Ohio: Stark County (which utilized System of Care) and Mahoning County (the comparison group). Before and after measures of recidivism were utilized among a sample of 449 youth with mental health problems. Foster et al. (2004) found that when examining recidivism of youth known to have committed at least one offense before study entry, both had a reduction in offending; however, Stark County had a greater reduction in recidivism. Additionally, the likelihood of youth in Stark County committing a serious crime after the study was reduced by 57%, while it remained unchanged in Mahoning County. The researchers concluded that the System of Care approach, coordinated with community-based services, decreases or delays the likelihood that youth with mental health issues will enter the juvenile justice system (Foster et al., 2004). Another exploratory study on the System of Care model was conducted by MacKinnon and colleagues (2002) and their findings generally support the findings of Foster et al. (2004).

Multisystemic Therapy (MST)

Another type of treatment for youth with mental illness is Multisystemic Therapy (MST). Like the System of Care model discussed above, MST is also family- and community-based and seeks to address the underlying causes of antisocial behavior among troubled youth. Specifically, MST focuses on the factors in an adolescent's environment that negatively affect behavior. This treatment model has been a successful clinical alternative to hospitalization for juveniles categorized as having serious clinical issues (Henggeler, 1999). According to the National Mental Health Association (2004), MST is one of the "best available treatment approaches for youth who have mental health treatment needs and who are involved in the juvenile justice system" (p. 5).

In a clinical trial that studied MST as an alternative to hospitalization for youth who suffer from severe psychiatric issues, MST was found to reduce the number of hospitalization days by 90% in the two weeks following the onset of treatment (Henggeler, 1999). Further, MST was found to be more effective than hospitalization in reducing mental health symptoms, improving family relationships, encouraging school attendance, and enhancing client satisfaction (Henggeler, 1999). Unfortunately, no measures of recidivism were included in this particular study.

Special Needs Diversionary Program

Cuellar et al. (2006) evaluated a Texas diversion program for juvenile offenders with mental health issues. The Special Needs Diversionary Program (SNDP) is an initiative that provides mental health services for juvenile offenders in the community. Nineteen counties were contracted to offer services to mentally ill offenders. While the types of services varied across each county, all included intensive treatment services such as "family and individual therapy, medication monitoring, crisis management, client advocacy, and service planning" (Cuellar et al., 2006, p. 201). The program duration was set to last between 4-6 months. To be eligible, participating youth had to: (a) be under the juvenile court's care, (b) meet specified diagnostic criteria, and (c) have a family member willing to participate in the program with them. The sample for this study consisted of 299 referred youth: 148 for the treatment group and 151 for the comparison group. The comparison group consisted of youth who were placed on the SNDP waiting list, but were not accepted into the program due to lack of placement availability. Cuellar et al. (2006) analyzed the research in three waves. Results indicated that 57.2% of the youth had at least one re-arrest; however, re-arrest rates were higher for the comparison group (68.2%) than for the treatment group (45.9%) (Cuellar et al., 2006). Additionally, youth in the treatment group had fewer total re-arrests than the comparison group. The authors concluded that SNDP was effective in delaying, and in some cases, preventing some forms of recidivism.

Multi-Dimensional Treatment Foster Care (MTFC)

Multi-dimensional Treatment Foster Care (MTFC) is a community-based treatment model that emphasizes the importance of intensive parenting, family support, and skill building for youths suffering from severe behavioral problems and antisocial disorders (Fisher & Chamberlain, 2000). MTFC is specifically designed to treat youth with severe anti-social delinquent behavior and emotional problems and the average program duration is between 6-9 months (National Mental Health Association, 2004). MTFC is different from most community-based programs in that youth are placed in specialized foster homes rather than in group programs that consist of other delinquent peers. Both the foster family and the biological family are strongly integrated into the MTFC model. The primary treatment administrators are the foster families themselves. Through intense training and instruction from the child's case manager, foster parents provide guidance, strict rules, and positive reinforcement to youth. The case managers are available to the foster parents 24/7 and speak with them on a daily basis regarding progress reports and instruction. The biological parents are the secondary treatment providers and are encouraged to actively participate in the program with the juvenile, as the ultimate goal is to return the juvenile's to their homes (Fisher & Chamberlain, 2000).

Fisher and Chamberlain (2000) included a brief summary of a randomized clinical trial on MTFC that compared its program to another community-based program. The study was quasi-experimental. Seventy-nine boys who were sentenced to out-of-home placements were randomly selected to MTFC and a comparison group, Group Care. The boys in the Group Care shared living space together and participated in a model of treatment referred to as: Positive Peer Culture. Recidivism for the two groups was measured based on re-arrest data in a 1-year follow-up period. The results revealed that the MTFC juveniles had fewer arrests than those in the Group Care program; an average of 2.6 arrests for MTFC and 5.4 arrests for Group Care. Additionally, the MTFC boys engaged in less delinquent activities (self-reported) when compared to the Group Care boys. Also, the MTFC group spent fewer days in incarceration than the boys in Group Care (Fisher & Chamberlain, 2000).

Mental Health Courts

Mental health courts for adults began in Florida in 1997 and were one among a number of problem solving courts developed to address specific, frequent issues among offenders (Rossman et al., 2012). Modeled after drug courts, mental health courts follow a similar structure but differ in their level of formality in terms of goal attainment and advancement towards that goal. In addition, mental health courts are less likely to use sanctions (such as short term incarceration) as a consequence for noncompliance compared to drug courts. While mental health courts have gained traction for adult offenders (Rossman et al., 2012), mental health courts for juveniles are a new and emerging practice across the country. The first juvenile mental health court was established in 2001 in San Jose, California (Santa Clara County) and it has become the model for all subsequent juvenile mental health courts. Eligibility for entry into juvenile mental health court differ across each jurisdiction, but all offer some range of treatment services, including individual, family, and group therapy, crisis intervention,

medication, wraparound services, and other individualized programming (Arredondo et al., 2001). Currently, there are only a handful of these specialty courts in operation. According to the National Center for Mental Health and Juvenile Justice (NCMHJJ), as of August 2005, there were only nine juvenile mental health courts operating nationwide (NCMHJJ, 2005). However, in a survey of juvenile justice systems across the country, an additional 20 indicated a mental health court was either under consideration or currently being planned for implementation (Cocozza & Shufelt, 2006). This stands in stark contrast to the over 100 adult mental health courts funded between 2000-2011 (Rossman et al., 2012). Following this same trend, process and outcome evaluations for mental health courts, while few for adult versions of this court (Rossman et al., 2012), are fairly nonexistent at the juvenile court version (Cocozza & Shufelt, 2012). However, the NCMHJJ is currently conducting a two-site evaluation of mental health courts for juveniles (NCMHJJ, n.d.).

Best Practices for Handling Juvenile Offenders with Mentally Health Issues

Research related to the effective handling of juvenile offenders with mental illness is sparse, thus limiting conclusions that could be drawn about best practices. All of the promising programs (MST, system of care, special needs diversionary program) involve comprehensive collaboration across multiple systems. Mental health courts appear to be an innovative initiative addressing the needs of mentally ill juvenile offenders. However, the lack of outcome evaluations demonstrating reductions in recidivism and cost effectiveness precludes us from categorizing it as an effective best practice. If mental health courts follow the same pattern as drug courts and their adult mental health court counterparts, in due course, productive evaluations should be available shortly.

Juvenile Offenders with Co-Occurring Disorders

Youth suffering from co-occurring mental illness and substance abuse disorders are doubly disadvantaged, insofar as both types of disorders can be equally predictive of behavioral problems and out-of-home placement. Abrantes and colleagues' (2005) study of youth admitted to a juvenile detention facility revealed that 52% of juveniles had multiple disorders upon admission; a conduct disorder in conjunction with a substance abuse disorder was the most common combination of co-occurring disorders (Abrantes et al., 2005). Another study (Vaughn et al., 2007, p. 1297) found the estimates of juveniles with co-occurring disorders to be two to three times higher than that of the general population. Abrantes and colleagues (2005) explain that delinquents with co-occurring substance abuse and mental health disorders are at even higher risk for recidivism.

Unfortunately, little research has been conducted on the topic of youth with co-occurring mental health and substance abuse disorders; even less literature is available on the effectiveness of existing programs. Several diversion programs for delinquent youth with co-occurring disorders are currently in operation; however the effectiveness of these programs remains unknown. The following programs fit into this category: the MH/JJ program, the DAWN project, and Persons in Need of Supervision Program (PINS).

Mental Health Juvenile Justice (MH/JJ) Diversion Project

The Mental Health/Juvenile Justice Diversion Project (MH/JJ) is an initiative launched by the state of New York to divert juveniles with mental health and substance abuse problems into community-based programs in lieu of out-of-home placements (Sullivan et al., 2007). The primary goals of the initiative are to reduce the number of out-of-home placements, reduce recidivism, and to improve the lives of the youths and their families. The treatment methods used for juveniles in the MH/JJ project include a combination of three different treatment approaches. First, a comprehensive and integrated services approach was utilized. Second, age and developmentally appropriate services were provided. Third, while treatment services sought to address individual needs, those efforts also focused on enhancing the youth's "natural strengths, resources, and resiliencies" (Sullivan et al., 2007, p. 559). The MH/JJ staff at all 12 participating counties were required to provide a minimum of services that included: screening, assessment, individual, group, and family counseling, and referrals to mental health and/or (depending on need) substance abuse community treatment programs. In addition, each program provided wraparound case management services (Sullivan et al., 2007).

Data for Sullivan's research were collected over a 7-year period from a sample of 2,309 arrested youth who were identified as being at risk for out-of-community placement, but who were ultimately placed on probation. Recidivism was measured by number of re-arrests. Over the project duration, recidivism varied: it decreased in the first two years, increased slightly for the third and the fourth year, and decreased significantly in the last three years, ending at 8% (Sullivan et al., 2007).

Another study by Hamilton et al. (2007) evaluated 10 county MH/JJ Project site outcomes. The purpose of this study was to examine variations in the different program types and to explore the impact each program had on placement and recidivism. Results revealed that mental health and substance abuse issues were two of the most significant factors predicting the type of placement. Substance abuse issues were also found to be strong predictors of recidivism. In the final analysis, it was determined that program sites that provided direct services to clients, such as in-house care, reduced the likelihood of placement into secure juvenile detention facilities (Hamilton et al., 2007).

The DAWN Project

The DAWN Project is a program in Marion County, Indiana, that serves youth with mental health and co-occurring substance abuse problems. Youth who participate in the DAWN program are at risk for being removed from their homes and are often referred by the juvenile courts (National Mental Health Association, 2004). DAWN is a community-based program that emphasizes the inclusion of family members in the provision of treatment. Other key elements of the program in-

clude wraparound services, intensive case management, and collaboration between several state agencies including Indiana's: Division of Mental Health and Family and Children, Department of Education, Office of Family and Children, Superior Court, and the Mental Health Association of Marion County. To be eligible for the project, youth must be involved with at least two of the above-mentioned agencies, have an impairment that affects social functioning, and have a diagnosed mental health disorder. A preliminary evaluation of this program demonstrated positive effects across all measures (Anderson, Wright, Kooreman, Mohr, & Russell, 2003). Twelve months post-enrollment in the project, significant reductions in impairment were measured in sample participants ($p < .0001$) in addition to a greater proportion of participants residing in less restrictive environments (i.e., non-institutionalized). In terms of recidivism, measured as remaining out of the juvenile justice or child welfare system, 83% of program completers had not returned compared to 9% of non-completers (Anderson et al., 2003).

Persons In Need of Supervision Diversion Program

The Orange County (New York) Mandatory Persons in Need of Supervision (PINS) Diversion Program is a community-based program that aims to reduce the number of youths with mental health and co-occurring issues who are sent to out-of-home placements. Probation officers determine eligibility and a screening group comprised of various healthcare providers develop a specialized treatment plan for each juvenile. Unfortunately, like the DAWN Project discussed above, very little published data is available regarding this program or its effectiveness in reducing recidivism (National Mental Health Association, 2004).

Best Practices for Handling Juvenile Offenders with Co-Occurring Disorders

Little empirical research is currently available regarding best practices for handling juvenile offenders with co-occurring disorders. Much of the research discussed above lacks methodological rigor found in other offending sub-populations. As a result, the effectiveness of the programs identified in this section must be interpreted with a healthy dose of skepticism. The paucity of research in this area begs for new ideas and a deeper analysis of the issues facing juvenile offenders with co-occurring disorders.

Conclusion

Services for juveniles who exhibit substance abuse disorders and/or mental health disorders are rapidly improving across the country with innovative interventions for the treatment of juveniles with substance abuse and mental health problems continually being developed. Juvenile drug courts and mental health courts are examples of such innovation, which requires collaborative inter-agency, public-private partnerships in planning and implementation.

In the area of juvenile substance abuse treatment, the most effective and promising approaches appear to be ones that focus on meeting the individualized needs of substance abusing offenders and, often, involve family members and/or significant individuals in a juvenile's life. Such approaches included the aforementioned juvenile drug courts, in addition to diversion to community treatment using the principles of effective intervention, and Family Functional Therapy (FFT). While not yet fully vetted in the literature, two other approaches—Multisystemic Therapy and Intensive Case Management involving families are "promising" practices in the treatment of juveniles with substance abuse disorders.

In terms of mental health treatment, we find that promising approaches appear to involve comprehensive collaboration across multiple systems, including the aforementioned juvenile mental health courts, Multisystemic Therapy, a system of care approach, and special needs diversionary programs. However, the lack of outcome evaluations demonstrating effectiveness across dependent variables such as cost and recidivism lead us to be tentative in our conclusions. Further outcome evaluation research is needed here. And the same can be said for treatment programs addressing the needs of juveniles with co-occurring disorders. While promising, innovative programs exist in this area, "best practices" are yet to be identified.

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